

## OPTICAL ANTENNA ARRAY FOR HARMONIC GENERATION, MIXING AND SIGNAL AMPLIFICATION

### Abstract of the Disclosure

An optical antenna collects, modifies and emits energy at light wavelengths. Linear conductors sized to correspond to the light wavelengths are used. Nonlinear junctions of small dimension are used to rectify an alternating waveform induced upon the conductors by the lightwave electromagnetic energy. The optical antenna and junctions are effective to produce harmonic energy at light wavelengths. The linear conductors may be comprised of carbon nanotubes that are attached to a substrate material, which may then be connected to an electrical port.